Wingsuit

User Manual

Version 1 – November 2008

Disclaimer:

The following information must be read and understood before any use of this equipment.

The user knows the risks of skydiving and accepts that:
Skydiving causes deaths and serious injuries. Many of these deaths and injuries can be attributed to equipment malfunctions. Skydiving equipment can fail, even if the user takes all possible precautions.
Failure to open the main or reserve parachute (or to follow emergency procedures) at a safe altitude, and/or equipment failures can result in severe injury or death.
It is the user‘s responsibility to:

- Receive proper training before any use of all skydiving equipment.
- Be extremely careful and cautious.
- Read and understand all owner’s and operations manuals for all skydiving equipment.
- Check all skydiving equipment and replace any defective or worn component prior to use.
- Review emergency procedures before each use of this and all skydiving equipment.
- Check equipment warnings - do not exceed equipment limitations.
- Never violate the training and experience requirements for the specific equipment in use.

Because of the unavoidable dangers involved in the use of this and all parachute equipment, Phoenix Fly (including, but not limited to, all owners, officers, staff and employees) makes no warranties of any kind, expressed or implied. It is sold with all faults and without any warranty of fitness for any purpose. By using this equipment or allowing it to be used by others, owner/buyer waives any liability of Phoenix Fly for personal injuries, death or damages from such use. Any promises or representations inconsistent with, or in addition to, this statement of warranty are not authorized by Phoenix Fly and shall be not binding. If any customer of Phoenix Fly suit declines to waive liability on the part of the manufacturer or authorized Phoenix Fly dealer, the customer may have a full refund of the purchase price by returning the wing suit before it is used. Return the suit to the manufacturer or authorized dealer within 21 days from the original date of purchase. Skydiving and wingsuit flying are high-risk activities which may cause or result in serious injury or death.

DO NOT attempt to land a wing suit without a fully inflated parachute.

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Section 1: How to use this manual

We know you are excited to receive your new Ghost 2 wingsuit and will most likely be wearing it now as you read this manual (after already doing a few test flights around your home and receiving strange looks from your family!)

Please take time to read this manual completely - it makes great restroom reading!

You will learn about:

How to assemble and safely use your:
The great new features of your:
How to get the most out of your:
How to take care of your:

W A R N I N G

PHOENIX FLY GHOST 2 WINGSUIT - USER MANUAL

This manual is **not** a course of instruction on how to make a parachute jump, fly a wing suit, nor does it contain regulations that govern sport parachuting and related activities.

Section 2: Introducing Phoenix Fly

Phoenix Fly is a cutting edge new company dedicated to the design, development and production of skydiving, BASE and sport garments. (Pants, jackets ,etc.)

Phoenix Fly's main goal is the production of state-of-the-art high performance wingsuits for skydiving and BASE-jumping. The product line includes tracking pants, jackets and other accessories for skydiving and BASE.

The founder of Phoenix Fly is Robert Pecnik, the designer of the first commercial wingsuit and co-founder of Phoenix Fly International, Inc. Robert started his skydiving career in Zagreb, Croatia in 1982. Since his early skydiving days, he has produced and tailored a number of RW suits.

In 1997, inspired by the late Patrick de Gayardon, Robert began working on a new wingsuit design. His first design was revolutionary, primarily in the field of safety. The quick wing release system provided the wingsuit flyer with the option to quickly and safely detach the wings in case of an emergency; thus enabling the jumper to continue his jump like a regular skydive by allowing complete movement of the arms.

Robert has since designed a number of improved wingsuit designs that have reached performance levels that until now were never thought to be possible. Today, Robert is reaching new heights with his new company, Phoenix Fly.

The company has already launched the revolutionary PF tracking suit and the Prodigy, Phantom, Acro, Stealth and Vampire wingsuits.

Phoenix Fly already has other new products in development that will continue to push the performance envelope for skydivers and BASE jumpers of all experience levels.

For information on the complete range of products and the latest news from Phoenix Fly please visit our website http://www.phoenix-fly.com

The Phoenix has risen!

Section 3: Features of your Ghost 2 wingsuit

PHOENIX-FLY proudly presents the **GHOST 2** wingsuit.

The Ghost 2 is the result of 9 years of continuous wing suit development.

The Phoenix-Fly Ghost 2 wingsuit is aimed at advanced wingsuit pilots who want a high performance suit for flocking, back flying and all around fun flying. The suit has been designed to have good slow speed characteristics - a low fall rate even with low horizontal speed. The Ghost 2 still has lots of range at the high end for when you want to fly fast and flat. Air locked back vents ensure excellent back flying performance and an optional eye catching colour panel design is also available.

The Ghost 2 offers a good balance of performance and fun, ideal for intermediate wingsuit pilots looking for a new challenge.

The Ghost 2 wingsuit has the following new features:
- Fast & Simple assembly thanks to over the shoulder zips.
- New cable cut away system, positioned on the arm sleeve.
- Improved inlet design, front and back for solid pressurization.

The Ghost 2 wingsuit retains the following proven features of the Ghost 1 :

• Large arm wing with specially shaped trailing edge to maximise surface area near the body whilst providing adequate access to the BOC pilot chute.
• Large leg wing and back deflector with double air intakes on the bottom skin. Air locked back inlets ensure good inflation whilst back flying.
• PF shoulder inlet technology that offers faster inflation and better arm wing pressurization when flying on the front and back.
• Refined arm wing gripper, the gripper size and angle has been modified to be more ergonomic.
• Integrated arm wing sleeve design with padded leading edge.
• Adjustable tension swoop cords.
• Deep cut booties made from automotive grade leather.
• Sturdy 1.9 Oz Balloon ZP and parapack material, with double seam construction.
• Options : Extra color panels and leg cut away system

Section 3.1: Main features of the PF Ghost 2 wingsuit are

The Ghost 2 wingsuit has the following features:

PF dual shoulder inlet technology that offers faster inflation and better pressurization of the arm wings whether flying on your front or back.

Arm Sleeve cut away system, the body of the suit is much cleaner now as the cut away is moved to the arm sleeve.

Fast & Simple assembly thanks to over the **shoulder zips.**

Large leg wing to provide stable flight with more speed and more lift.

Air locked back inlets ensure good inflation whilst back flying.

Large arm wing with specially shaped trailing edge to maximise surface area near the body whilst providing adequate access to the BOC pilot chute.

Refined arm wing gripper, the gripper size and angle has been modified to be more ergonomic.

PF leg inlet technology for fast inflation and good pressurization. The inlet size and shape has been modified to work better at slow speeds.

Loop wing release handles - are positioned in front of the wing. They are easy to spot, reach and pull. Handles are loop type only (there is left and right handle).

Deep cut bootie – robust design, using automotive grade leather.

Padded knee area with F-111 backed foam and extra space has been allowed for knee protection.

Net lining on the inside of the torso area to improve comfort.

High grade materials and robust double stitching seam construction ensure a strong and long lasting product (as used for canopy manufacture). Main suit material: 1.9 Oz Balloon ZP, reinforced in the critical areas.

Section 4: Recommended Experience Level & Preparation for the GHOST 2

The Ghost 2 is a high performance wingsuit; it is **NOT suitable for novice wingsuit pilots!**

Phoenix Fly strongly recommends that pilots have a **minimum of 50 wingsuit flights before trying the GHOST 2**.

Phoenix Fly expects its customers to exercise common sense and seek advice from other experienced wingsuit pilots when selecting their wingsuit.

Make sure you are proficient with your current suit before upgrading:

- Can you perform wingsuit exits, flight and deployment without any problems?
- Can you fly the suit near its maximum glide ratio, with corresponding delays?
- Can you perform basic aerobatics and back flying without problems?
- Are you able to flock in a controlled manner and take grips?

If you have any questions regarding the experience level required for the GHOST 2 please contact us, we will be happy to answer your questions: **info@phoenix-fly.com**

Section 4.1: Recommended experience level for starting wingsuit flying

Phoenix Fly recommends that skydivers who wish to start wingsuit flying are:

- An experienced, current and licensed skydiver.
- With 500 or more freefall skydives if intending to learn to fly a wingsuit on his/her own.
- Or a minimum of 200 jumps within 18 months if a jumper is to receive one-on-one training from an experienced wingsuit pilot
- More important than jump numbers are the individual skills and approach of the skydiver. Jumpers who have excellent tracking skills and the ability to judge their position and altitude over the ground at all times will make good wingsuit pilots. It is critical the jumper feels comfortable in the suit, not restricted by the suit material in anyway and feels confident they can safely perform the drills required for the wingsuit flight
- Start off with a low performance wingsuit such as the Prodigy and gradually upsize your wings with experience.

Section 5: Setting Up Your Ghost 2

The process required to attach the Ghost 2 is different to that from previous Phoenix-Fly suits. The traditional side of body tab/cable has been moved to the arm sleeves and the rig attaches to the suit via two zips on the shoulders of the suit. To start off:

1. Open the two over the shoulder zips and also the two zips on the front of the body.
2. Place your rig on the floor with the back pad facing up.
3. Lay the suit up on top of the rig as if you were actually wearing the suit and the rig.
4. Thread the leg straps in through the slots on the hips of the suit, in between the arm wing and the body of the suit, as shown in the photo (ensure the leg straps are not twisted).
5. Place the arm wings under the main lift webs of your rig and close the over the shoulder zips ensuring the emergency handles are accessible and on the outside of the suit.

Thread the leg straps inside the suit.

When attaching your wingsuit the most important thing is to ensure that your **emergency handles are NOT covered or obstructed in any way**. If you have any doubts **DO NOT jump** the suit and seek the advice of an experienced wingsuit pilot or rigger.

Ensure that your chest strap is tightened FULLY to ensure your emergency handles remain in the correct position.

Section 5.1: Separating the wingsuit from you rig

To release your container from the suit simply undue both of the over shoulder zips and unthread the leg straps.

Section 5.2 Setting up the arm cut away system

The assembly of the arm sleeve cut away system is simple and straight forward.

1. Attach each of the cut away handles on to the Velcro panel on the hips of the suit, inserting the end of the yellow cable into the channel above the Velcro.
2. Thread the yellow cables upwards until the end comes out of the small hole next to first wing tab (closest to body)
3. Thread the cable through all the wing and body tabs alternately and stow the end of the cable in the channel on the palm chord.

It is prudent to clean and lubricate your cables periodically as dirt and contaminants can significantly increase the pull force required to operate the cut away system.

Attaching the arm sleeve cut away system

Section 6: Body position required for the Ghost 2

The body position required to fly the GHOST 2 is similar to that required for the other designs by Robert Pecnik. (e.g. the V-1 and Skyflyer)

Every person finds their own individual flying position. A position that works great for one person may not work for somebody else (due to the variables of weight, size and height)

Some general guidelines are:

- Open your wings fully and fly with your arms and legs extended while still feeling relaxed.
- Your spine should be straight, neither arched nor de-arched.
- Open your arm wings as wide as possible and push your shoulders forwards slightly
- Trying pushing your hips / butt up slightly
- For the best performance keep your head and neck in line with you spine, look with your eyes
- In flight the lowest points of your body should be your shoulder joints and tail of the leg wing.

You can adjust the flight angle by using your torso and hips. To achieve maximum glide you will have to fly with a steeper ('head low') angle resulting in increased forward speed. If you want to slow fall and make a super long delay your angle will be more 'head high'.

The wing grippers also allow you fine control over your pitch angle, try holding them lightly between forefinger and thumb and experiment with different positions.

For turns simply look where you want to go and make small movements as large movements may result in a steep dive or instability. Turns can be achieved with any part of the wingsuit; legs, hip, shoulders, feet etc. try experimenting!

Section 7: Deployment Procedures

Section 7.1: Wave-off

Since you cannot use your arms to wave off, you have to wave off with your legs. Click your legs together three times, while watching the airspace around you, so that anyone near you can see your intention to pull.

Section 7.2: Pull / deployment

The most critical portion of your wingsuit flight is the pull. The huge burble behind you caused by your large wings and your forward speed could cause a pilot chute hesitation resulting in line twists. An asymmetrical body position could cause you to become unstable and can also lead to line twists. Since your canopy will come off your back at a 45° angle you should keep your legs FULLY EXTENDED while you pull. While learning to fly the wing suit start your wave off and pull sequence higher than normal. (We recommend 5000´ to start.)

Here is how your wave off and pull sequence should go:

- Tap your feet three times. On the third tap keep your legs together and arch slightly.
- Symmetrically bring both your arms in for the pull. (Your legs should remain straight and closed the entire time to decrease the burble and to ensure that your feet and leg wing don't interfere with the deploying canopy.)
- Throw your pilot chute vigorously and symmetrically in to clean air.
- Close your arm wings once you have released your pilot chute (to decrease the burble.)

During the pull you should keep your legs extended (even when you close them), be symmetrical and throw your pilot chute vigorously.

NOTE: The large arm wing of the Ghost 2 can make finding the deployment handle slightly more difficult; if you encounter problems locating the handle in a timely manner try the following drill:

- Collapse both arm wings and place both hands under your container, on the spandex of the BOC pouch,
- Slide your hands outwards symmetrically until your right hand finds the BOC handle
- Grip the handle firmly and throw the pilot chute vigorously and symmetrically in to clean air.

Section 7.3: After the Pull / post deployment

Once your canopy has inflated unzip the arm zippers all the way up so that your arms are completely free to reach the risers and toggles. Once the you have secured the airspace around you, unsnap and unzip your booties. Stow the leg wing on the snappers so that the wing will not drag on the ground during landing.

Section 7.4: Advanced technique

An experienced pilot could choose to perform a barrel roll prior to wave off to check their airspace 100%. Obviously any pilot who performs this manoeuvre must be able to do it as 2nd nature without any instability.

Section 8: Emergency Procedures

Section 8.1: Wing Cutaway system

The Phoenix Fly wing cutaway system was designed for use as a backup device. Three reasons you may want to cut your wings away could be:

- You are unstable or not comfortable with your flight. (You can cut the wings away in freefall and bring your arms up into a box position)
- You need to get to your risers fast and do not have time to undo the zippers.
- You are unable to undo a zipper because it is jammed or broken.

To cut away the wings, simply grab the cutaway handles, peel the Velcro and pull them outwards and upwards towards your head.

Section 8.2: Uncontrollable Spins in Flight

With a high performance suit like the GHOST 2 it is possible to end up in a flat spin. A collision or bad exit can in rare cases cause this to occur.

The corrective action is simple:

- Pull your knees up to your chest and collapse your arm wings
- Once you see the ground, open your arm wings to regain stability
- Once you are belly to earth and stable, re-open the leg wing
- Once you're flying, re-orient yourself to the DZ and continue the skydive

In the unlikely situation that this process does not work, try cutting away your arm wings and assuming the “box position” to regain control.

Section 8.3: Malfunction Procedure

KNOW the placement of your emergency handles and KNOW the emergency procedures for the gear that you are jumping.

The suit was designed to allow you freedom to reach and pull both emergency handles without restriction. This means that you DO NOT need to cut away your wings first before using your emergency handles (and therefore waste valuable time and altitude).

However, to reach the toggles and risers of your reserve parachute you must either open the zippers on your arms or cut away your wings. If you are going to cutaway your main parachute and your arm wings are already undone (either unzipped or cut away), close your leg wing by putting your legs together before operating any of your handles. Having your leg wing inflated may cause instability and turbulence, which could interfere with your reserve deployment.

Section 8.4: Water Landings

We recommend you never fly over or near to large bodies of water. In the case of an unavoidable water landing we recommend the following actions:

- Deploy your canopy as high as possible to increase your preparation time.
- If time allows unzip both leg wing zips and stow the wing on the hip snappers.
- Ensure that your arm wings are completely unzipped.
- Disconnect your RSL
- Perform a normal “straight into wind” landing, flare as usual (as if the water surface was the ground)
- Cut away your main canopy
- Start swimming towards land!

If you are unable to unzip your leg wing we recommend you use your hook knife to cut your leg wing in two. Swimming with the leg wing in place is nearly impossible even for strong swimmers.

Landing your parachute in water whilst wearing a wingsuit is extremely dangerous – **avoid this situation**.

Section 9: Making A Flight Plan

Section 9.1: Weather Conditions

Because you can fly long distances with the suit, make sure that the weather conditions allow you to have visual contact with the ground opening point at all times during your flight. Remember that the same physical laws apply to you as to any non-powered flyer. You travel longer and faster in relation to the ground when you fly with the wind and the reverse happens when flying against the wind.

Section 9.2: Briefing your fellow jumpers, pilots, etc.

Before entering the aircraft you need to brief your fellow jumpers and the pilot about your wing suit flight. Because your freefall time can be twice as long as conventional jumpers, it is safest to exit last (even after tandems and AFF groups). Make sure the jump pilot is informed about your wing suit flight!

Section 9.3: Flight Path

A motto that applies to all skydives: **"Plan the dive, dive the plan"**

Refer to diagram below for an example flight path; the plan you choose to follow will depend on various factors i.e.

The run-in direction
The wind direction
Relative position of landing area to exit point
Air space considerations (other air traffic, for example gliders or light aircraft)
DZO preference
Ground obstacles

NOTE: Avoid flying over or near to large bodies of water.

Of course you can correct your plan in freefall if needs be, for example if you see the tail wind is stronger than you expected on your down wind leg you will make more distance then you planned and could choose to turn back towards the LZ earlier.

The main considerations for any flight plan:

- **Upon exit, fly 90° off the line of flight (perpendicular to it)**

How long you fly perpendicular to the line of flight depends on your spot. Keep your eyes on the DZ; when the time is right, turn 90° towards the DZ and fly parallel to the line of flight. Your horizontal speed can exceed 100 mph, so know where you are and know where others are at all times.

- **Never fly across or near the line of flight**

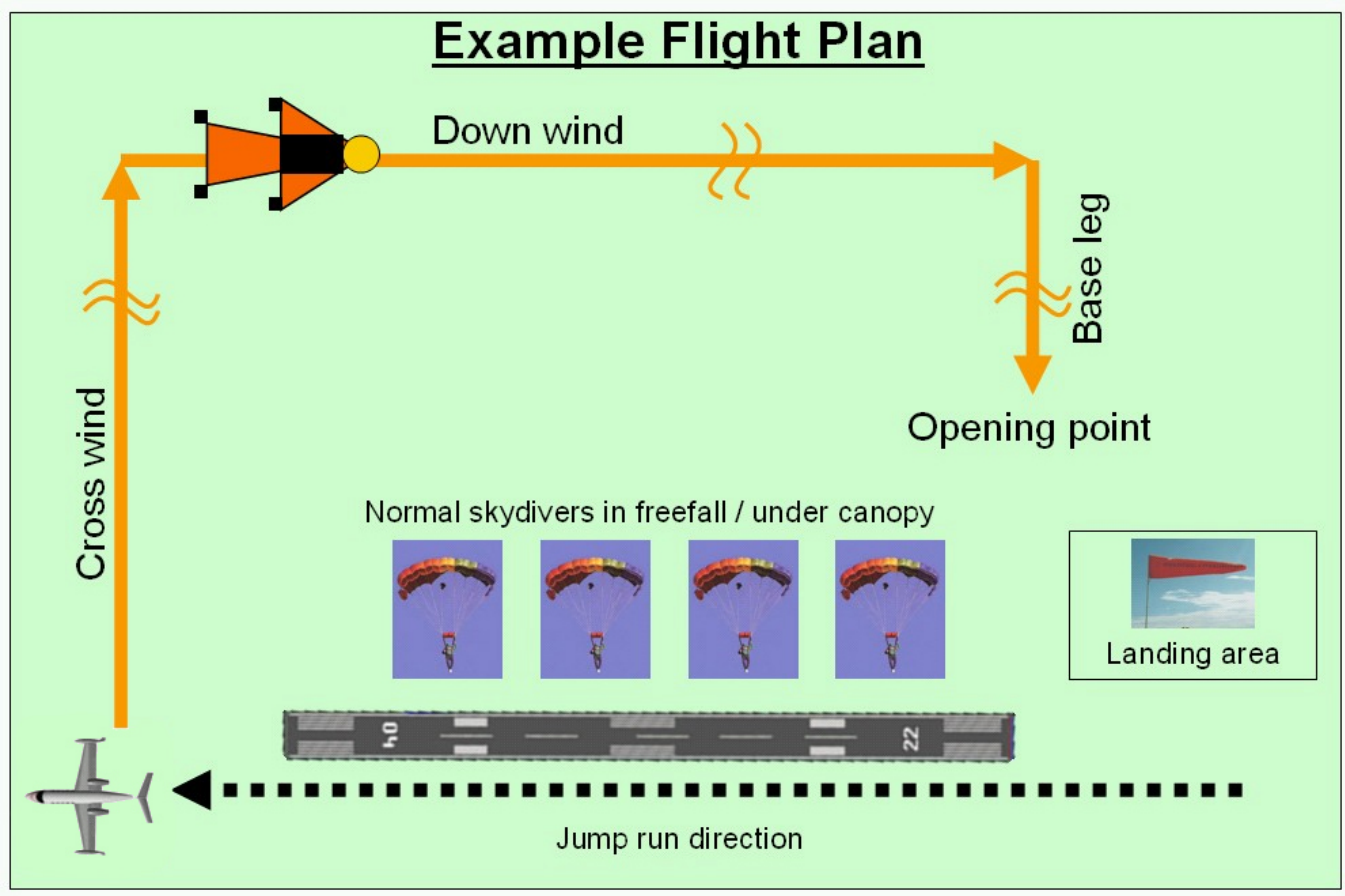
There could be high canopies e.g. tandems or students that pose a collision risk. If a wingsuit flyer choices to deploy close to the flight line and then experiences a canopy malfunction and subsequent reserve ride he may invade the airspace of the other skydivers.

- **Always have a flight plan before you enter the aircraft**

Not having a plan is the first link in the “chain of events” that could lead to an incident report.

- **Open upwind of your landing area**

This gives you a higher chance of making the LZ regardless of the wind conditions at opening altitude (Also in the event of a cutaway your canopy should land closer to the LZ)



Section 10: Pre Flight Checks

Section 10.1: Putting on your Ghost 2 wingsuit

- With the rig / suit on the ground, slide yourself feet first into your leg straps and through the legs of the suit, ensuring that the leg straps aren't twisted
- Bring the suit and rig over your shoulders. (You will soon develop a quick and easy technique.)
- Tighten your legs straps as if you were in freefall.
- Position the booties completely over the toe of your shoe and close the leg zippers - be careful not to catch any of your pant / trouser material in the zip (OR leg hair if you are wearing shorts!!)
- Secure the zipper with the snaps.
- Close the zippers on the chest of the suit. Get into the routine that whenever your suit is zipped up, your leg-straps are tightened.
- Fasten your chest strap tightly.
- Close the arm zippers, locking the zipper catch at the very end of the zipper. Put the thumb cords in place (around your thumb and OVER your altimeter).

ALWAYS REMEMBER to put on your leg straps!

Just because you can't see them doesn't mean you don't need them to save your life! Failure to wear and fit your parachute harness correctly under the suit can lead to **serious bodily injury and or death.**

There have been two cases to date of skydivers forgetting their leg straps. Fortunately the sturdy wingsuit construction proved sufficient to withstand the opening shock and support the jumper's weight under canopy **hence saving the jumpers life. BUT the wingsuit IS NOT DESIGNED FOR THIS PURPOSE** and Phoenix Fly does not offer any guarantee that the suit is fit for this purpose!

Section 10.2: Pre-Boarding checks

Before getting on the aircraft:

- Make sure that your wings are correctly assembled and that the cutaway cables are correctly routed.
- Ensure that emergency handles are in position and are not hindered or covered.
- Fasten your chest strap securely.
- Ensure that your leg straps are fastened and snug inside the suit.
- Check that the arm zippers and thumb cords are in good condition.
- Have someone give you a pin check.
- Check that the BOC throw-out pilot chute and handle are in the correct position.

Perform some practice pulls before you enter the aircraft to ensure that you can reach your pilot chute and that it is in the correct position. To do so, touch your pilot chute handle with your right hand while bringing your left arm in symmetrically and closing your leg wing.

After your practice pulls, rehearse getting out of your wings. One at a time, open both of your arm zippers with a controlled, rapid movement. Unzip to the top of your shoulders for full range of motion. Simulate reaching the risers. Repeat this until you feel comfortable with the procedure.

Section 10.3: Prepare for flight

Depending on your jump aircraft you may choose to fit your leg wing after boarding. We recommend you do so as soon as you are on board, arm wings can be left undone until you receive the 2 minute call prior to exit.

REMEMBER TO CHECK THE THREE '3's:

3 straps (both leg straps and chest strap)
3 handles (reserve, cut-away and PC handle)
3 rings (check the correct assembly of your 3 ring circus)

Section 11: Maiden Flight

Before you jump you GHOST 2 for the first time make sure that you are current, performing some normal skydives and wingsuit flights with your present lower performance wingsuit.

Wear the suit on the ground to get used to new arm and leg stance. Pay particular attention to learn where the zippers and cut away handles are located.

Take some time to study the suit construction on the ground.

Section 11.1: Practice

It is necessary to practice the exit, flight, pull and emergency procedures on the ground, before you do your first flight. It is very important you have read and understood this manual completely before the first flight.

Section 11.2: Equipment

Because of the large burble behind your back and the fact that the wings restrict the freedom of your arms, there are a few things to consider with regards to your equipment.
The main canopy should be relatively docile. Do not use any kind of canopy that you feel uncomfortable or unfamiliar with. Remember that you need time if you want to free your arms before dealing with a malfunction.

- DO NOT use a pull-out pilot chute.
- DO NOT use a bungee-type collapsible pilot chute.
- DO NOT use a leg strap mounted pilot chute.
- We recommend **not** to use pilot chutes with hackey handles
- DO NOT use a ripcord and spring –loaded pilot chute
- Use only a BOC throw-out pilot chute with the wing suit (exception for leg pouch)
- Use a standard length bridle with the deployment bag packed in the normal orientation
- Normal freefall pilot chute (size depends on canopy size)

If you intend to perform many wingsuit skydives Phoenix-Fly advises that you fit a longer bridle (standard bridles are usually 7’ / 210cm in length, wingsuit bridles are around 9’ / 270cm). It is not always necessary to purchase a new bridle, ask your local rigger about the possibility to extend your existing bridle. A longer “wingsuit bridle” will not have any detrimental effects when used for normal skydives.

Phoenix-Fly strongly recommends that wingsuit pilots DO NOT deploy their canopy from full flight i.e. with significant forward speed as this can result in serious injury and damage to your wingsuit and parachute equipment (as a result of hard opening).

If the user decides to ignore Phoenix-Fly's warnings about deploying from full flight, the user takes full responsibility for the consequences of such a manoeuvre. The following equipment changes may help avoid pilot chute hesitation and bag rotation problems in this scenario BUT hard openings are still a likely result.

- A long "wingsuit" bridle (9' / 270cm)
- A container with dynamic corners or open corners
- Packing the deployment bag with the grommet at the bottom of the tray (with dynamic corners)
- For BASE it is common to use 36" – 38" PC (with standard BASE bridle) depending on canopy size. Rolling the nose and direct slider control may also be beneficial. If in doubt consult an experienced jumper or rigger

Section 11.3: Phoenix Fly suit with AADs and audible altimeters

Because it is possible to achieve very slow vertical speeds with the Phoenix Fly wingsuit (averaging just 70 km/h or 40mph) your AAD will probably not fire your reserve if you are passing through the hard deck (the Expert Cypress is set up for 36 m/s, about 125 km/h (although it should work in the case of unconsciousness).

Also, some audible altimeters may not function properly at slow vertical airspeeds. For these reasons it is very important to wear a visual altimeter and open at a proper altitude. Wear your visual altimeter as far away from your body as possible. We recommend wrist-mounted altimeters for the most accurate reading. Phoenix Fly Inc. strongly recommends using AADs and audible altimeters!

Additional equipment: Helmet, goggles, wrist altimeter and hook knife

Electronic Altimeters like the *Neptune* from Alti 2 which can serve as both a visual / audible altimeter and freefall computer can also be very useful for measuring your flight performance (speed and freefall delay). www.alti2.com

Section 11.4: Exits

For the first flights we strongly suggest that you exit from inside the aircraft, head high and with your chest to the relative wind (similar to an AFF level 1 exit.) To perform a good poised exit the most important thing is to have your wings closed (arms tight to your body, legs together) for the first second that you are exposed to the relative wind. Look up at the aircraft as you exit and arch slightly for stability. After you have safely cleared the aircraft, spread your wings (both arms and legs, all at the same time, symmetrically) and start your flight.

It is important to clear the aircraft before spreading your wings. If you fail to clear the aircraft, you risk having an unstable exit as well as hitting the aircraft (body or tail) resulting in severe injuries to you and damage to the aircraft.

Section 11.5: Exercises for first flight

The focus of your first few flights on the GHOST 2 must be on safety and not performance:

- Perform a solo wingsuit flight
- Make a nice stable exit
- Slowly extend the wings
- Turn 90 degrees to the jump run
- Perform 3 practice pulls
- Fly a normal pattern and pull higher than usual

Once you are feeling comfortable with the suit you can start to work on finding the sweet spot and maxing the suit out for time and glide.

Section 12: Taking care of your Ghost 2

Section 12.1: Storing you Ghost 2

REMEMBER the GHOST 2 contains semi rigid components! Always fold and store the suit carefully so as not to damage the wing stiffeners or wingtip grippers.

Don't leave your suit in direct sunlight for prolonged periods! The UV rays in sunlight will fade the colors and reduce the lifespan of your suit. (As applies to all parachuting equipment)

Do not make repairs or modifications to this wingsuit by yourself.

Section 12.2: Materials and washing instructions

The Ghost 2 is made from high grade materials such ZP, Dacron and Mylar. These materials were carefully selected to maximise the aerodynamic performance, comfort and durability of this product.

To wash your wingsuit:

- Remove the cut away cables
- Hand wash in cool water (30° C / 85° F)
- Hang till dry
- DO NOT spin dry! DO NOT iron!

Conclusion

The key to becoming a good wingsuit pilot is practice. Seek advice from other pilots and keep experimenting. Remember to listen to the relative wind and try to feel how the air is flowing over your body.

A new chapter in the history of wingsuit flying has only just begun!

The Phoenix Fly Team wishes you many happy & long flights!!

Appendix A:

Contact details

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http://www.phoenix-fly.com

We are proud to use the following equipment:

http://www.basetroll.com

http://www.baserigs.com

http://www.alti2.com

Appendix B: Notes for wingsuit BASE jumpers

We strongly recommend you read the document "Advice for starting Wingsuit BASE jumping"

The document is available on:

http://www.phoenix-fly.com

http://www.blincmagazine.com

http://www.blincmagazine.com/cms/article_427.shtml

http://www.dropzone.com

http://www.dropzone.com/cgi-bin/safety/detail_page.cgi?ID=506

Appendix C: Recommended Reading

Available on the Phoenix Fly website article section:

- Wingsuit flying and Basic Aerodynamics 1
- Wingsuit flying and Basic Aerodynamics 2
- Advice for Starting Wingsuit BASE
- Leg Pouch Pilot Chute System

Books for pilots who want to have more in depth understand of aerodynamics:

- Introduction to Flight, John D.Anderson,Jr (www.mhhe.com ,ISBN 0-07-116034-5)
- www.desktopaero.com Ilan Kroo : Applied Aerodynamics-A Digital Textbook

The following Internet sites:

- www.flybirdman.com
- www.blincmagazine.com >> Wingsuit Forum
- www.dropzone.com >> Wingsuit Forum

Appendix E: A brief history of wingsuit flying

Brief History of Wingsuit Flying
1936 - Harry Ward
Detachable wings with 9' foot span made of linen with wooden stiffeners. Made 9 jumps with a measure of control of some lateral movement. Hung up his wings after Clem Sohn's death
1930s Clem Sohn
The most famous of the many American show jumpers. He built his bat wings using canvas and metal rods.
1960s... A few brave skydivers took to the skies with varied designs:
Bill Cole, who famously had his membership to the Sport Parachute Association suspended after he made a jump without a parachute, which was passed to him in mid-air.
Tommy Boyd, Don Molitor, Lyle Cameron Sr. in 1965 edition of SkyDiver magazine
C.H.Laurin is one of the few, the "real deal", paratrooper, barnstormer, pioneer skydiver, pilot.
SKY DIVER
LAST OF THE BATMEN
1950s – Leo Valentin
Valentin rediscovered the key to stabilised and controlled freefall passed on in his 1955 biography BirdMan.
He experimented with non-rigid wings and concluded that he could do nothing more than slow his fall-rate. He designed rigid-wings with a 9 foot span hinged to a steel corset round his chest.
1990s Patrick de Gayardon
The father of modern wingsuit flying. Taking principles of ram-air parachute and applying it to a personal suit. Curved, inflated surfaces like a wing, but non-rigid and collapsible. Patrick flew is suit back into a Porter. BASE jumped it in Norway and Italy and performed "swoops" over the Italian alps and in the Grand Canyon.
1993 – Christoph Aarns
"Bodyglider"
Eloy, Arizona 1993
Designer of the modern SkyRay rigid wing
1998 First commercial wingsuit
RobertPecnik designs and produces first commercial wingsuit
1999 Furthest human flight
Adrian Nicholas Freefall of 4 minutes 55 seconds, distance of 10 miles. Exit altitude of 33,850 ft
2001 BASE – 1st Minute Man
Robert Pecnik flies for over one minute at a famous site in Northern Italy
"We want to be flying machines which travel from A to B, not the balloons which stay in the sky for ever."
2004 Phoenix Fly is born
With the launch of the revolutionary Vampire V-1.
A new era in wingsuit flying has just begun. The Phoenix is rising...

End